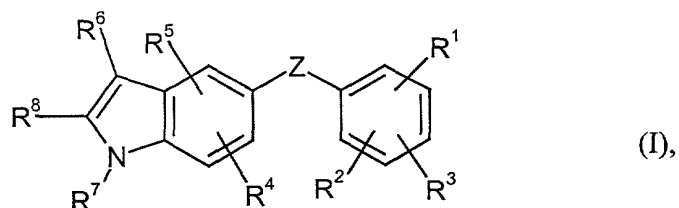


Patent claims

1. Compounds of the general formula (I)

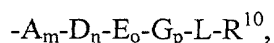


in which

Z represents O, S, SO, SO₂, CH₂, CHF, CF₂ or represents NR⁹, in which R⁹ denotes hydrogen or (C₁-C₄)-alkyl,

R¹ and R² are identical or different and represent hydrogen, halogen, cyano, (C₁-C₆)-alkyl, CF₃, CHF₂, CH₂F, vinyl or (C₃-C₇)-cycloalkyl, where at least one of the two substituents is unequal to hydrogen and in the ortho position to the bridge bond,

R³ represents a group of the formula



in which

A represents O, S, NR¹¹ or represents the group -(CR¹²=CR¹³)-, in which R¹¹ denotes hydrogen or (C₁-C₄)-alkyl, and R¹² and R¹³ are identical or different and denote hydrogen, cyano, (C₁-C₄)-alkyl or (C₁-C₄)-alkoxy,

D represents a straight-chain (C₁-C₃)-alkylene group, which can be

mono- or polysubstituted, identically or differently, by (C₁-C₄)-alkyl, hydroxyl, (C₁-C₄)-alkoxy, halogen, amino, mono-(C₁-C₄)-alkylamino, mono-(C₁-C₄)-acylamino or (C₁-C₄)-alkoxycarbonylamino,

5 E and L independently of one another represent a C(O) or SO₂ group,

10 G represents NR¹⁴, in which R¹⁴ denotes hydrogen or (C₁-C₄)-alkyl, or represents a straight-chain (C₁-C₃)-alkylene group, which can be mono- or polysubstituted, identically or differently, by (C₁-C₄)-alkyl, hydroxyl, (C₁-C₄)-alkoxy, halogen, amino, mono- or di-(C₁-C₄)-alkylamino or mono-(C₁-C₄)-acylamino,

m, n, o and p independently of one another in each case represent the number 0 or 1, with the proviso that

15 in the case that L represents a C=O-group, the sum (m+n+o+p) is unequal to the number 0,

and

20 in the case that m and o in each case represent the number 1, A represents the radical NR¹¹ and E and L in each case represent a C=O-group, the sum (n+p) is unequal to the number 0,

25 and

30 R¹⁰ represents OR¹⁵, NR¹⁶R¹⁷, (C₁-C₁₀)-alkyl, (C₃-C₈)-cycloalkyl, (C₂-C₆)-alkenyl, (C₆-C₁₀)-aryl, (C₆-C₁₀)-arylmethyl or represents a saturated, partly unsaturated or aromatic 5- to 10-membered heterocycle having up to four identical or different heteroatoms from the group consisting of N, O and/or S, where the abovementioned radicals are optionally

substituted by one, two or three identical or different substituents selected from the group consisting of halogen, hydroxyl, oxo, cyano, nitro, amino, $\text{NR}^{18}\text{R}^{19}$, trifluoromethyl, $(\text{C}_1\text{-C}_6)\text{-alkyl}$, $(\text{C}_1\text{-C}_6)\text{-alkoxy}$ optionally substituted by R^{20} , $(\text{C}_3\text{-C}_8)\text{-cycloalkyl}$, $(\text{C}_6\text{-C}_{10})\text{-aryl}$, which for its part is optionally substituted by halogen, $(\text{C}_1\text{-C}_4)\text{-alkyl}$, $(\text{C}_1\text{-C}_4)\text{-alkoxy}$, trifluoromethyl, nitro or cyano; $-\text{O}-\text{C}(\text{O})-\text{R}^{21}$, $-\text{C}(\text{O})-\text{OR}^{22}$, $-\text{C}(\text{O})-\text{NR}^{23}\text{R}^{24}$, $-\text{SO}_2-\text{NR}^{25}\text{R}^{26}$, $-\text{NH}-\text{C}(\text{O})-\text{R}^{27}$ and $-\text{NH}-\text{C}(\text{O})-\text{OR}^{28}$, where

R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} , R^{23} , R^{24} , R^{25} , R^{26} , R^{27} and R^{28} are identical or different and in each case represent hydrogen, phenyl, benzyl, $(\text{C}_1\text{-C}_6)\text{-alkyl}$ or $(\text{C}_3\text{-C}_8)\text{-cycloalkyl}$, which for their part are optionally mono- or polysubstituted, identically or differently, by halogen, hydroxyl, amino, carboxyl, $(\text{C}_1\text{-C}_4)\text{-alkoxy}$, $(\text{C}_1\text{-C}_4)\text{-alkoxycarbonyl}$, $(\text{C}_1\text{-C}_4)\text{-alkoxy-carbonyl}$, amino, $(\text{C}_1\text{-C}_5)\text{-alkanoyloxy}$, a heterocycle or phenyl which is optionally substituted by halogen or hydroxyl,

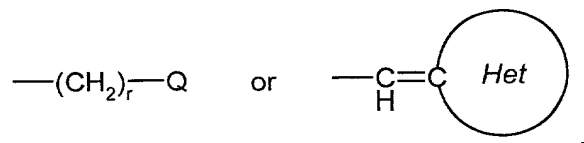
or the group

$-\text{L}-\text{R}^{10}$ represents a group of the formula $-\text{P}(\text{O})(\text{OR}^{29})_2$, in which

R^{29} denotes hydrogen or $(\text{C}_1\text{-C}_4)\text{-alkyl}$,

or

R^3 represents a group of the formula



in which

Q represents a 5- to 6-membered saturated, partly unsaturated or aromatic heterocycle having up to four identical or different heteroatoms from the group consisting of N, O and/or S, which for its part is optionally mono- to trisubstituted, identically or differently, by oxo (=O), thioxo (=S), hydroxyl, (C₁-C₆)-alkyl or phenyl,

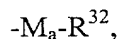
r represents the number 0, 1 or 2,

and

the ring *Het* denotes a 5- to 6-membered saturated or partly unsaturated heterocycle having up to three identical or different heteroatoms from the group consisting of N, O and/or S, which is optionally mono- to trisubstituted, identically or differently, by oxo (=O), thioxo (=S), hydroxyl, (C₁-C₆)-alkyl or phenyl,

R⁴ and R⁵ are identical or different and in each case represent hydrogen, hydroxyl, halogen, cyano, nitro, (C₁-C₄)-alkyl or the radical of the formula NR³⁰R³¹, where R³⁰ and R³¹ have the meaning indicated for R¹⁵ and independently of one another can be identical to or different from this substituent,

R⁶ represents hydrogen, halogen or represents a group of the formula



in which

5

M represents a carbonyl group, a sulphonyl group or a methylene group,

a represents the number 0 or 1,

10

and

R^{32} has the meaning of R^{10} indicated above and can be identical to or different from this substituent,

15

R^7 represents hydrogen or represents an acyl group which can be removed under physiological conditions with formation of an NH function, preferably represents hydrogen or acetyl ,

and

20

R^8 has the meaning of R^6 indicated above and can be identical to or different from this substituent,

and their pharmaceutically tolerable salts, solvates, hydrates and hydrates of the salts.

25

2. Compounds according to Claim 1,

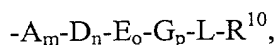
in which

30

Z represents O, S or CH_2 ,

R^1 and R^2 are identical or different and represent hydrogen, fluorine, chlorine, bromine, (C_1-C_4) -alkyl, CF_3 , CHF_2 , CH_2F , vinyl or (C_3-C_5) -cycloalkyl, where at least one of the two substituents is unequal to hydrogen and is in the ortho position to the bridge bond, in particular both substituents are unequal to hydrogen and both are in the ortho position,

R^3 represents a group of the formula



in which

A represents O, S, NR^{11} or represents the group $-(CR^{12}=CR^{13})-$, in which R^{11} denotes hydrogen or methyl, and R^{12} and R^{13} are identical or different and denote hydrogen or methoxy,

D represents a straight-chain (C_1-C_3) -alkylene group which can be mono- or disubstituted, identically or differently, by (C_1-C_4) -alkyl, hydroxyl, methoxy, ethoxy, fluorine, chlorine, amino, mono- (C_1-C_4) -alkylamino or mono- (C_1-C_4) -acylamino,

E represents a $C(O)$ group,

L represents a $C(O)$ or SO_2 group,

G represents an NH group or represents a straight-chain (C_1-C_3) -alkylene group, which can be mono- or disubstituted, identically or differently, by methyl, ethyl, hydroxyl, methoxy, fluorine, chlorine, amino, methylamino or acetylamino,

m, n, o and p independently of one another in each case represent the number 0 or 1, with the proviso that

in the case that L represents a C=O-group, the sum (m+n+o+p) is unequal to the number 0,

and

in the case that m and o in each case represent the number 1, A represents the radical NR^{11} and L represents a C=O-group, the sum (n+p) is unequal to the number 0,

and

R^{10} represents OR^{15} , $\text{NR}^{16}\text{R}^{17}$, (C₁-C₆)-alkyl, (C₃-C₇)-cycloalkyl, naphthyl, phenyl, benzyl or represents a saturated, partly unsaturated or aromatic 5- to 6-membered heterocycle having up to four identical or different heteroatoms from the group consisting of N, O and/or S, where the abovementioned radicals are optionally substituted by one, two or three identical or different substituents selected from the group consisting of halogen, hydroxyl, oxo, cyano, nitro, amino, $\text{NR}^{18}\text{R}^{19}$, trifluoromethyl, (C₁-C₄)-alkyl, (C₁-C₄)-alkoxy optionally substituted by R^{20} , (C₃-C₆)-cycloalkyl, -O-C(O)- R^{21} , -C(O)- OR^{22} , -C(O)- $\text{NR}^{23}\text{R}^{24}$, -SO₂- $\text{NR}^{25}\text{R}^{26}$, -NH-C(O)- R^{27} and -NH-C(O)- OR^{28} , where

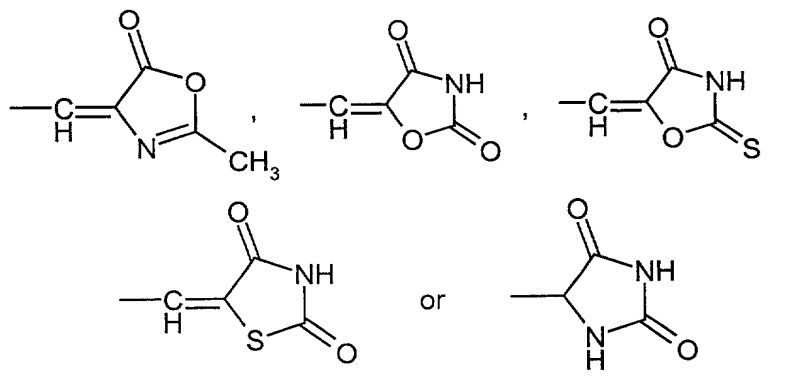
R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} , R^{23} , R^{24} , R^{25} , R^{26} , R^{27} and R^{28} are identical or different and in each case represent hydrogen, phenyl, benzyl, (C₁-C₆)-alkyl or (C₃-C₆)-cycloalkyl, which for their part are optionally mono- or polysubstituted, identically or differently, by halogen, hydroxyl, amino, carboxyl, (C₁-C₄)-alkoxy, (C₁-C₄)-alkoxycarbonyl, (C₁-C₄)-alkoxy-carbonyl-

amino, (C₁-C₅)-alkanoyloxy, a heterocycle or phenyl which is optionally substituted by halogen or hydroxyl,

or

5

R³ represents a group of the formula



10

R⁴ and R⁵ are identical or different and in each case represent hydrogen, halogen or (C₁-C₄)-alkyl,

R⁶ represents hydrogen, halogen or a group of the formula

15



in which

20

M represents a carbonyl group, a sulphonyl group or a methylene group,

a represents the number 0 or 1,

and

5 R^{32} represents (C_1-C_{10}) -alkyl, (C_3-C_7) -cycloalkyl, (C_2-C_4) -alkenyl, naphthyl, phenyl, benzyl, pyridyl, pyridazinyl or pyridazinonyl, where the abovementioned radicals are optionally substituted by one, two or three identical or different substituents selected from the group consisting of halogen, hydroxyl, cyano, nitro, amino, $NR^{18}R^{19}$, trifluoromethyl, (C_1-C_4) -alkyl, (C_1-C_4) -alkoxy, (C_3-C_7) -cycloalkyl, phenyl, which for its part is optionally substituted by halogen, (C_1-C_4) -alkyl, (C_1-C_4) -alkoxy, trifluoromethyl, nitro or cyano, $-O-C(O)-R^{21}$, $-C(O)-OR^{22}$, $-C(O)-NR^{23}R^{24}$, $-SO_2-NR^{25}R^{26}$, $-NH-C(O)-R^{27}$ and $-NH-C(O)-OR^{28}$, where

15 R^{18} , R^{19} , R^{21} , R^{22} , R^{23} , R^{24} , R^{25} , R^{26} , R^{27} and R^{28} are identical or different and in each case represent hydrogen, phenyl, benzyl, (C_1-C_6) -alkyl or (C_3-C_6) -cycloalkyl, which for their part are optionally mono- or polysubstituted, identically or differently, by halogen, hydroxyl, amino, carboxyl, (C_1-C_4) -alkoxy, (C_1-C_4) -alkoxycarbonyl, (C_1-C_4) -alkoxycarbonylamino, (C_1-C_5) -alkanoyloxy, a heterocycle or phenyl which is optionally substituted by halogen or hydroxyl,

20 R^7 represents hydrogen,

25 and

R^8 has the meaning of R^6 indicated above and can be identical to or different from this substituent,

30 and their pharmaceutically tolerable salts, solvates, hydrates and hydrates of the salts.

3. Compounds according to Claim 1,

in which

5

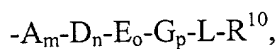
Z represents O or CH₂,

10

R¹ and R² are identical or different and represent hydrogen, fluorine, chlorine, bromine, (C₁-C₄)-alkyl, CF₃, CHF₂, CH₂F, vinyl or (C₃-C₅)-cycloalkyl, where at least one of the two substituents is unequal to hydrogen and in the ortho position to the bridge bond, in particular both substituents are unequal to hydrogen and both are in the ortho position,

15

R³ represents a group of the formula



in which

20

A represents O, S or NH,

25

D represents a straight-chain (C₁-C₃)-alkylene group, which can be mono- or disubstituted, identically or differently, by methyl, ethyl, hydroxyl, methoxy, fluorine, amino or acetylamino,

30

E represents a C(O) group,

L represents a C(O) or SO₂ group,

G represents an NH group or represents a methylene group,

m, n, o and p independently of one another in each case represent the number 0 or 1, with the proviso that

5 in the case that L represents a C=O group, the sum (m+n+o+p) is unequal to the number 0,

and

10 in the case that m and o in each case represent the number 1, A represents the radical NH and L represents a C=O group, the sum (n+p) is unequal to the number 0,

and

15 R^{10} represents OR^{15} , $NR^{16}R^{17}$, (C_1-C_6) -alkyl, phenyl, benzyl or represents an aromatic 5- to 6-membered heterocycle having up to four identical or different heteroatoms from the group consisting of N, O and/or S, where the abovementioned radicals are optionally substituted by one, two or three identical or different substituents selected from the group
20 consisting of fluorine, chlorine, hydroxyl, oxo, cyano, nitro, amino, $NR^{18}R^{19}$, trifluoromethyl, (C_1-C_4) -alkyl, (C_1-C_4) -alkoxy optionally substituted by R^{20} , (C_3-C_6) -cycloalkyl, $-O-C(O)-R^{21}$, $-C(O)-OR^{22}$, $-C(O)-NR^{23}R^{24}$, $-SO_2-NR^{25}R^{26}$, $-NH-C(O)-R^{27}$ and $-NH-C(O)-OR^{28}$,
25 where

R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} , R^{23} , R^{24} , R^{25} , R^{26} , R^{27} and R^{28} are identical or different and in each case represent hydrogen, phenyl, benzyl, (C_1-C_6) -alkyl or (C_3-C_6) -cycloalkyl, which for
30 their part are optionally mono- to disubstituted, identically or differently, by fluorine, chlorine, hydroxyl, amino, carboxyl,

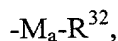
(C₁-C₄)-alkoxy, (C₁-C₄)-alkoxycarbonyl, (C₁-C₄)-alkoxy-carbonylamino, (C₁-C₅)-alkanoyloxy, a heterocycle or phenyl which is optionally substituted by fluorine, chlorine or hydroxyl,

5

R⁴ and R⁵ are identical or different and in each case represent hydrogen, fluorine, chlorine or methyl,

10

R⁶ represents hydrogen, halogen or a group of the formula



in which

15

M represents a sulphonyl group or a methylene group,

a represents the number 0 or 1,

and

20

R³² represents (C₁-C₁₀)-alkyl, (C₃-C₇)-cycloalkyl, phenyl, benzyl, pyridyl, pyridazinyl or pyridazinonyl, where the above-mentioned radicals are optionally substituted by one or two identical or different substituents selected from the group consisting of fluorine, chlorine, bromine, hydroxyl, cyano, nitro, amino, NR¹⁸R¹⁹, trifluoromethyl, (C₁-C₄)-alkyl, (C₁-C₄)-alkoxy, (C₃-C₇)-cycloalkyl, -O-C(O)-R²¹, -C(O)-OR²², -C(O)-NR²³R²⁴, -SO₂-NR²⁵R²⁶, -NH-C(O)-R²⁷ and -NH-C(O)-OR²⁸, where

30

R¹⁸, R¹⁹, R²¹, R²², R²³, R²⁴, R²⁵, R²⁶, R²⁷ and R²⁸ are identical or

different and in each case represent hydrogen, phenyl, benzyl, (C₁-C₆)-alkyl or (C₃-C₆)-cycloalkyl, which for their part are optionally mono- or disubstituted, identically or differently, by fluorine, chlorine, hydroxyl, amino, carboxyl, (C₁-C₄)-alkoxy, (C₁-C₄)-alkoxycarbonyl, (C₁-C₄)-alkoxycarbonyl-amino, (C₁-C₅)-alkanoyloxy, a heterocycle or phenyl which is optionally substituted by fluorine, chlorine or hydroxyl,

R⁷ represents hydrogen,

R⁸ represents hydrogen, carboxyl, (C₁-C₄)-alkoxycarbonyl, (C₁-C₆)-alkyl, (C₃-C₇)-cycloalkyl, phenyl, benzyl, pyridyl, phenylsulphonyl or benzylsulphonyl, where the abovementioned radicals are optionally substituted by one or two identical or different substituents selected from the group consisting of fluorine, chlorine, bromine, hydroxyl, cyano, nitro, amino, NR¹⁸R¹⁹, trifluoromethyl, (C₁-C₄)-alkyl, (C₁-C₄)-alkoxy, (C₃-C₆)-cycloalkyl, -O-C(O)-R²¹, -C(O)-OR²², -C(O)-NR²³R²⁴, -SO₂-NR²⁵R²⁶, -NH-C(O)-R²⁷ and -NH-C(O)-OR²⁸, where

R¹⁸, R¹⁹, R²¹, R²², R²³, R²⁴, R²⁵, R²⁶, R²⁷ and R²⁸ are identical or different and in each case represent hydrogen, phenyl, benzyl, (C₁-C₆)-alkyl or (C₃-C₆)-cycloalkyl, which for their part are optionally mono- or polysubstituted, identically or differently, by fluorine, chlorine, hydroxyl, amino, carboxyl, (C₁-C₄)-alkoxy, (C₁-C₄)-alkoxycarbonyl, (C₁-C₄)-alkoxycarbonyl-amino, (C₁-C₅)-alkanoyloxy, a heterocycle or phenyl which is optionally substituted by fluorine, chlorine or hydroxyl,

and their pharmaceutically tolerable salts, solvates, hydrates and hydrates of the salts.

4. Compounds of the formula I

in which

5

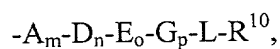
Z represents O,

10

R^1 and R^2 are identical or different and represent hydrogen, fluorine, chlorine, bromine, (C₁-C₄)-alkyl, CF₃, CHF₂, CH₂F, vinyl or (C₃-C₅)-cycloalkyl, where at least one of the two substituents is unequal to hydrogen and in the ortho-position to the bridge bond, in particular both substituents are unequal to hydrogen and both are in the ortho-position,

15

R^3 represents a group of the formula



in which

20

A represents O, S or NH,

25

D represents a methylene or ethylene group, which can be mono- to disubstituted, identically or differently, by methyl, ethyl, fluorine, amino or acetylamino,

30

E represents a C(O) group,

L represents a C(O) or SO₂ group,

G represents an NH group or represents a methylene group,

m, n, o and p independently of one another in each case represent the number 0 or 1, with the proviso that

5 in the case that L represents a C=O-group, the sum (m+n+o+p) is unequal to the number 0,

and

10 in the case that m and o in each case represent the number 1, A represents the radical NH and L represents a C=O-group, the sum (n+p) is unequal to the number 0,

and

15 R¹⁰ represents OR¹⁵, NR¹⁶R¹⁷ or represents (C₁-C₄)-alkyl, where R¹⁵, R¹⁶ and R¹⁷ are identical or different and in each case represent hydrogen, phenyl, benzyl, (C₁-C₆)-alkyl or (C₃-C₆)-cycloalkyl, which for their part are optionally mono- to disubstituted, identically or differently, by
20 fluorine, chlorine, hydroxyl, amino, carboxyl, (C₁-C₄)-alkoxy, (C₁-C₄)-alkoxycarbonyl, (C₁-C₄)-alkoxycarbonylamino, (C₁-C₅)-alkanoyloxy, a heterocycle or phenyl,

25 R⁴ and R⁵ are identical or different and in each case represent hydrogen, fluorine, chlorine or methyl,

30 R⁶ represents hydrogen, halogen, (C₁-C₁₀)-alkyl, (C₃-C₇)-cycloalkyl, (C₃-C₇)-cycloalkylmethyl, phenyl, benzyl, pyridazinonylmethyl, phenylsulphonyl or pyridylsulphonyl, where the abovementioned aromatic radicals are optionally substituted by one or two identical or different substituents selected from the group consisting of fluorine,

chlorine, cyano, nitro, trifluoromethyl, methyl, methoxy, carboxyl or methoxycarbonyl,

R^7 represents hydrogen,

R^8 represents hydrogen, (C_1-C_6) -alkyl, (C_3-C_7) -cycloalkyl, phenyl, benzyl, phenylsulphonyl or benzylsulphonyl, where the above-mentioned aromatic radicals are optionally substituted by one or two identical or different substituents selected from the group consisting of fluorine, chlorine, cyano, trifluoromethyl, methyl or methoxy,

and their pharmaceutically tolerable salts, solvates, hydrates and hydrates of the salts.

5. Compounds of the formula 1, in which

Z represents CH_2 or in particular represents oxygen,

R^1 and R^2 are identical or different and represent methyl, ethyl, propyl, isopropyl, chlorine, bromine, CF_3 , vinyl or cyclopropyl, where both substituents are in the ortho-position to the bridge bond,

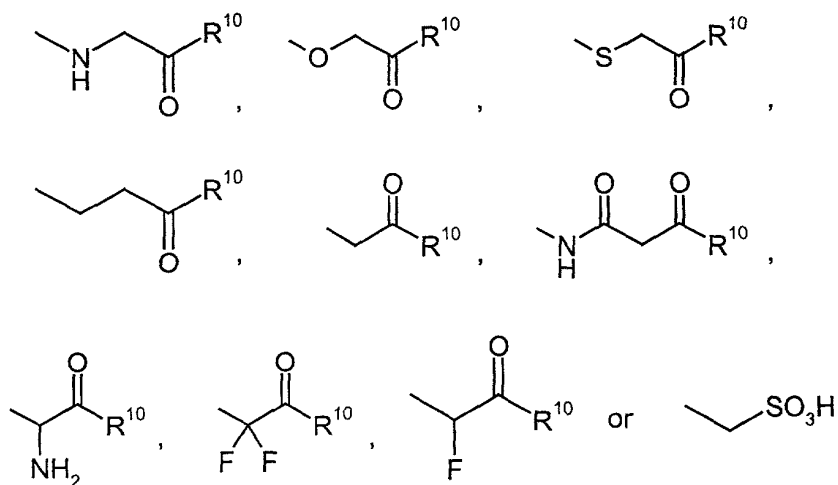
R^4 and R^5 independently of one another represent methyl, fluorine or chlorine or in particular represent hydrogen,

and

R^7 represents hydrogen.

6. Compound according to one of Claims 1 to 5, in which Z represents oxygen.

7. Compound according to one of Claims 1 to 6, in which R^3 represents a group of the formula



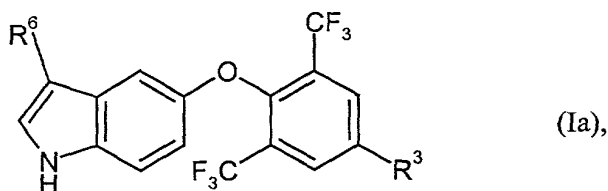
5

which is located in the para position to the bridge bond and in which R^{10} represents hydroxyl or the radical $-C(O)-R^{10}$ has the indicated meanings of R^{10} for a group which, in the sense of a prodrug, can be broken down to the carboxylic acid $-C(O)-OH$ or its salts.

10

8. Compounds according to one of Claims 1 to 7, in which R^4 , R^5 and R^7 represent hydrogen.
9. Compounds according to one of Claims 1 to 8, in which R^1 and R^2 are both situated in the ortho position to Z and represent bromine, trifluoromethyl, ethyl, cyclopropyl and in particular represent methyl or chlorine.
10. Compounds of the formula (Ia)

15



in which

R^3 represents a group of the formula $-CH_2-C(O)-OH$, $-CHF-C(O)-OH$ or $-CF_2-C(O)-OH$,

and

R^6 represents straight-chain or branched (C_1-C_8) -alkyl.

and their pharmaceutically tolerable salts, solvates, hydrates and hydrates of the salts.

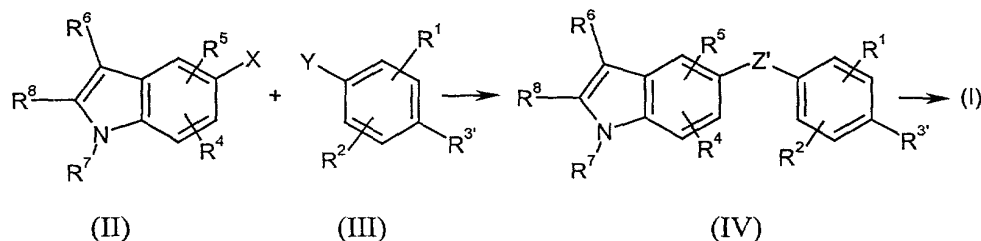
11. Medicaments comprising at least one compound of the general formula (I) or (Ia) as defined in Claims 1 to 10.

12. Medicaments comprising at least one compound of the general formula (I) or (Ia) as defined in Claims 1 to 10, and at least one excipient and/or vehicle customary in pharmacology.

13. Process for the production of medicaments, characterized in that at least one compound of the general formula (I) or (Ia) as defined in Claims 1 to 10 is converted into a suitable administration form using excipients and vehicles.

14. Use of the compounds of the general formula (I) as defined in Claims 1 to 10 in the prevention and control of diseases.

15. Use of the compounds of the general formula (I) as defined in Claims 1 to 10 in the treatment and/or prophylaxis of arteriosclerosis and hypercholesterolaemia.
- 5 16. Use of the compounds of the general formula (I) as defined in at least one of Claims 1 to 8 for the production of medicaments for the prophylaxis and/or treatment of disease forms which can be treated with natural thyroid hormone.
- 10 17. Use of compounds of the general formula (I) according to at least one of Claims 14 to 16 in combination with other medicaments.
18. Process for the prevention and control of diseases, characterized in that patients are treated with a compound as defined in Claims 1 to 10.
- 15 19. Process for the preparation of compounds of the general formula (I) as defined in Claim 1, characterized in that reactive indole derivatives of the general formula (II) are reacted with reactive phenyl derivatives of the general formula (III)



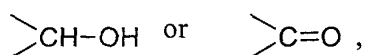
where the substituents R¹, R², R⁴, R⁵, R⁶, R⁷ and R⁸ have the meanings indicated in Claim 1, and

R^{3'} has the meaning indicated for R³ or represents NO₂, NH₂, NH-PG, OH, O-PG, SH, S-PG, or represents an aldehyde, cyano, carboxyl or (C₁-C₄)-alkoxy-carbonyl group,

where PG represents a protective group,

5 X and Y in each case represent groups of opposite reactivity, where, for example, X can be an electrophilic radical which reacts with a nucleophilic Y substituent and vice versa,

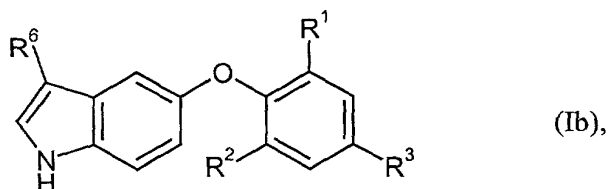
Z' has the meaning indicated for Z or represents



10

if appropriate in the presence of inert solvents and catalysts and if appropriate with isolation of the intermediates of the general formula (IV) or directly to give compounds of the formula (I).

15 20. Compounds of the formula (Ib)



in which

20 R^1 and R^2 are identical or different and represent bromine, trifluoromethyl, ethyl, cyclopropyl and in particular represent methyl or chlorine,

R^3 represents a group of the formula $-\text{NH}-\text{C}(\text{O})-\text{CH}_2-\text{C}(\text{O})-\text{R}^{10}$, in which

25 R^{10} represents hydroxyl or the radical $-\text{C}(\text{O})-\text{R}^{10}$ has the meanings of R^{10} indicated above for a group, which in the sense of a prodrug can be broken down to the carboxylic acid $-\text{C}(\text{O})-\text{OH}$ or its salts,

and

R^6 represents straight-chain or branched (C_1 - C_8)-alkyl.